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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,931	03/19/2004	Masaaki Yoshida	R2184.0307/P307	6728

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EXAMINER
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MENZ, DOUGLAS M

ART UNIT	PAPER NUMBER
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2891

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/803,931

Applicant(s)

YOSHIDA ET AL.

Examiner

Douglas M. Menz

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 9-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Joy et al. (US 4697332).

Regarding claim 1, Joy discloses a semiconductor device comprising:

A substrate (60, Fig. 8g); and

At least three kinds of wells (71, 68, 65, Fig. 8g) formed in and on a top surface of the substrate (60, Fig. 8g),

Wherein at least one kind of well (71, Fig. 8g) has a top surface height level higher than the top surface height levels of the other two kinds of wells in relation to the top surface of the substrate, wherein the other two kinds of wells (68, 65, Fig. 8g) have substantially the same top surface height as each other and wherein the other two kinds of wells have a different conductivity type than the at least one kind of well (Col. 3, lines: 40-49 and Cols. 8-9).

Regarding claim 2, Joy further discloses wherein said other two kinds of wells (68, 65, Fig. 8g) have the same conductivity type and have different impurity concentrations with relation to each other (Cols. 8-9).

Regarding claim 3, Joy further discloses wherein at least one kind of well (68, Fig. 8g) has an impurity concentration that is decreased to a level necessary to form a high-voltage transistor (Col. 8, lines: 60-68).

Regarding claim 4, Joy further discloses wherein said other two kinds of wells (68, 65, Fig. 8i) have different junction depths within the substrate relative to each other.

Regarding claim 5, Joy further discloses wherein one of said other two kinds of wells (65, Fig. 8i) has a larger junction depth within the substrate and further includes a triple well in which a well of an opposite conductivity type having a smaller junction depth is formed.

Regarding claim 6, Joy further discloses wherein said at least one kind of well (71, Fig. 8) and said other two kinds of wells (68,65, Fig. 8) are of different conductivity types to each other (Col. 3, lines: 40-49 and Cols. 8-9).

Regarding claim 7, Joy further discloses wherein a MOS transistor is formed by a drain diffusion layer and a source diffusion layer formed in the more than three kinds of wells and a gate electrode formed on areas corresponding to the drain diffusion layer and the source diffusion layer via a gate insulating film (Fig. 11).

Regarding claim 8, Joy further discloses wherein MOS transistors are formed by drain diffusion layers and source diffusion layers formed in the more than three kinds of wells and gate electrodes formed on areas corresponding to the drain diffusion layers and the source diffusion layers via a gate insulating film, and wherein one of the MOS transistors formed on the triple well is one of a MOS transistor constituting a power supply circuit, a MOS transistor constituting a circuit sensitive to a substrate noise and a MOS transistor constituting a circuit generating a noise.

### ***Response to Arguments***

Applicant's arguments filed 8/3/06 have been fully considered but they are not persuasive. Applicant argues that the Examiner relies on Fig. 8g, which is an intermediate state of forming the semiconductor device, and not the completed structure shown in Fig. 8h. Applicant is correct, however, this does not change the fact that Joy anticipates "at least one kind of well has a top surface height level higher than a top surface height levels of the other two kinds of wells in relation to the top surface of the said substrate" as recited in independent claim 1 (*see above rejection*).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas M. Menz whose telephone number is 571-272-1877. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Baumeister can be reached on 571-272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2891

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DM

*Doug Menz* 10/15/06  
Doug Menz